## AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A pixel signal processing apparatus for generating a pixel signal having a k-th spectral sensitivity characteristic at a pixel position of interest where there is a pixel signal having an h-th spectral sensitivity characteristic in a group of pixel signals from pixels arrayed on a two-dimensional plane, each pixel having one of a first to an N-th spectral sensitivity characteristic, [[{]]h and k being different integers between 1 and N, inclusive[[}]], the pixel signal processing apparatus comprising:

a first comparison and selection means that, for each of a ~~first~~ plurality of first neighboring pixels ~~(referred to below as 'first neighboring pixels')~~ having the h-th spectral sensitivity characteristic, disposed in a neighborhood of the pixel position of interest, decides whether an absolute value of a first difference between its signal value and the signal value of the pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest ~~(referred to below as a 'first difference')~~ is larger than a predetermined first threshold value, selects the signal value of the pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest if the absolute value of the first difference is larger than the first threshold value, and selects the signal value of the first neighboring pixel if the absolute value of the first difference is smaller than the first threshold value;

a first mean value calculating means for calculating a mean value of the plurality of pixel signal values selected by the first comparison and selection means;

an h-signal nonlinear low-pass filter for making a result calculated by said first mean value calculating means a low-frequency component of the pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest;

a second comparison and selection means that, for each of a ~~second~~ plurality of second neighboring pixels ~~(referred to below as 'second neighboring pixels')~~ having the k-th spectral sensitivity characteristic, disposed in a neighborhood of the pixel position of interest, decides whether an absolute value of a second difference between its signal value and a mean value of the signals of a plurality of pixels of the k-th spectral sensitivity characteristic adjacent to the pixel position of interest ~~(referred to below as a 'second difference')~~ is larger than a

predetermined second threshold value, selects said mean value of the signals of said plurality of pixels of the k-th spectral sensitivity characteristic if the absolute value of the second difference is greater than the second threshold value, and selects the signal value of the second neighboring pixel if the absolute value of the second difference is less than the second threshold value;

a second mean value calculating means for calculating a mean value of the signal values of the plurality of pixels selected by the second comparison and selection means;

a k-signal nonlinear low-pass filter for making a result calculated by said second mean value calculating means a low-frequency component of the pixel signal with the k-th spectral sensitivity characteristic at the pixel position of interest; and

a calculating means for adding a difference between the values obtained by the k-signal nonlinear low-pass filter and the h-signal nonlinear low-pass filter to the value of the ~~h-th~~ pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest to obtain the ~~k-th~~ pixel signal of the k-th spectral sensitivity characteristic at the pixel position of interest.

2. (Currently Amended) A pixel signal processing apparatus for generating a pixel signal having a k-th spectral sensitivity characteristic at a pixel position of interest where there is a pixel signal having an h-th spectral sensitivity characteristic in a group of pixel signals from pixels arrayed on a two-dimensional plane, each pixel having one of a first to an N-th spectral sensitivity characteristic, [[(]]h and k being different integers between 1 and N, inclusive[[)]], the pixel signal processing apparatus comprising:

a first comparison and selection means that, for each of a ~~first~~ plurality of first neighboring pixels ~~(referred to below as 'first neighboring pixels')~~ having the h-th spectral sensitivity characteristic, disposed in a neighborhood of the pixel position of interest, decides whether an absolute value of a first difference between its signal value and the signal value of the pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest ~~(referred to below as a 'first difference')~~ is larger than a predetermined first threshold value, selects the signal value of the pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest if the absolute value of the first difference is larger than the first threshold value, and selects the signal value of the first neighboring pixel if the absolute value of the first difference is

smaller than the first threshold value;

a first mean value calculating means for calculating a mean value of the plurality of pixel signal values selected by the first comparison and selection means;

an h-signal nonlinear low-pass filter for making a result calculated by said first mean value calculating means a low-frequency component of the pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest;

a second comparison and selection means that, for each of a ~~second~~ plurality of second neighboring pixels ~~(referred to below as 'second neighboring pixels')~~ having the k-th spectral sensitivity characteristic, disposed in a neighborhood of the pixel position of interest, decides whether an absolute value of a second difference between its signal value and a mean value of the signals of the plurality of pixels of the k-th spectral sensitivity characteristic adjacent to the pixel position of interest ~~(referred to below as a 'second difference')~~ is larger than a predetermined second threshold value, selects said mean value of the signals of said plurality of pixels of the k-th spectral sensitivity characteristic if the absolute value of the second difference is greater than the second threshold value, and selects the signal value of the second neighboring pixel if the absolute value of the second difference is less than the second threshold value;

a second mean value calculating means for calculating a mean value of the signal values of the plurality of pixels selected by the second comparison and selection means;

a k-signal nonlinear low-pass filter for making a result calculated by said second mean value calculating means a low-frequency component of the pixel signal with the k-th spectral sensitivity characteristic at the pixel position of interest; and

a calculating means for multiplying the value of the ~~h-th~~ pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest by a ratio of the values obtained by the k-signal nonlinear low-pass filter and the h-signal nonlinear low-pass filter to obtain the ~~k-th~~ pixel signal of the k-th spectral sensitivity characteristic at the pixel position of interest.

3. (Original) The pixel signal processing apparatus of claim 1, wherein the pixels having the first to N-th spectral sensitivity characteristics are pixels of three types, namely, red, green, and blue pixels.

4. (Currently Amended) The pixel signal processing apparatus of claim 1, wherein in calculating the mean value of the plurality of pixel signal values selected by the first comparison and selection means and the second comparison and selection means, each of the first and second mean value calculating means calculates a weighted mean, using weighting coefficients that decrease with increasing distance from the pixel of interest.

5. (Original) The pixel signal processing apparatus of claim 2, wherein the pixels having the first to N-th spectral sensitivity characteristics are pixels of three types, namely, red, green, and blue pixels.

6. (Currently Amended) The pixel signal processing apparatus of claim 2, wherein in calculating the mean value of the plurality of pixel signal values selected by the first comparison and selection means and the second comparison and selection means, each of the first and second mean value calculating means calculates a weighted mean, using weighting coefficients that decrease with increasing distance from the pixel of interest.

7. (Currently Amended) A pixel signal processing method for generating a pixel signal having a k-th spectral sensitivity characteristic at a pixel position of interest where there is a pixel signal having an h-th spectral sensitivity characteristic in a group of pixel signals from pixels arrayed on a two-dimensional plane, each pixel having one of a first to an N-th spectral sensitivity characteristic, [[(]]h and k being different integers between 1 and N, inclusive[[)]], the pixel signal processing method comprising:

a first comparison and selection step of, for each of a ~~first~~ plurality of first neighboring pixels ~~(referred to below as "first neighboring pixels")~~ having the h-th spectral sensitivity characteristic, disposed in a neighborhood of the pixel position of interest, deciding, by utilizing a first comparison and selection means, whether an absolute value of a first difference between its signal value and the signal value of the pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest ~~(referred to below as a "first difference")~~ is larger than a predetermined first threshold value, selecting the signal value of the pixel signal of the h-

th spectral sensitivity characteristic at the pixel position of interest if the absolute value of the first difference is larger than the first threshold value, and selecting the signal value of the first neighboring pixel if the absolute value of the first difference is smaller than the first threshold value;

a first mean value calculation step of calculating a mean value of the plurality of pixel signal values selected in the first comparison and selection step;

an h-signal nonlinear low-pass filtering step of making a result calculated in said first mean value calculation step a low-frequency component of the pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest;

a second comparison and selection step of, for each of a ~~second~~ plurality of second neighboring pixels ~~(referred to below as 'second neighboring pixels')~~ having the k-th spectral sensitivity characteristic, disposed in a neighborhood of the pixel position of interest, deciding whether an absolute value of a second difference between its signal value and a mean value of the signals of the plurality of pixels of the k-th spectral sensitivity characteristic adjacent to the pixel position of interest ~~(referred to below as a 'second difference')~~ is larger than a predetermined second threshold value, selecting the mean value of the signals of said plurality of pixels having the k-th spectral sensitivity characteristic if the absolute value of the second difference is greater than the second threshold value, and selecting the signal value of the second neighboring pixel if the absolute value of the second difference is less than the second threshold value;

a second mean value calculation step of calculating a mean value of the signal values of the plurality of pixels selected by the second comparison and selection step;

a k-signal nonlinear low-pass filtering step of making a result calculated in said second mean value calculation step a low-frequency component of the pixel signal with the k-th spectral sensitivity characteristic at the pixel position of interest; and

a calculation step of adding a difference between the values obtained by the k-signal nonlinear low-pass filter and the h-signal nonlinear low-pass filter to the value of the ~~h-th~~ pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest to obtain the ~~k-th~~ pixel signal of the k-th spectral sensitivity characteristic at the pixel position of interest.

8. (Currently Amended) A pixel signal processing method for generating a pixel signal having a k-th spectral sensitivity characteristic at a pixel position of interest where there is a pixel signal having an h-th spectral sensitivity characteristic in a group of pixel signals from pixels arrayed on a two-dimensional plane, each pixel having one of a first to an N-th spectral sensitivity characteristic, [[(]]h and k being different integers between 1 and N, inclusive[[)]], the pixel signal processing method comprising:

a first comparison and selection step of, for each of a ~~first~~ plurality of first neighboring pixels ~~(referred to below as 'first neighboring pixels')~~ having the h-th spectral sensitivity characteristic, disposed in a neighborhood of the pixel position of interest, deciding, by utilizing a first comparison and selection means, whether an absolute value of a first difference between its signal value and the signal value of the pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest ~~(referred to below as a 'first difference')~~ is larger than a predetermined first threshold value, selecting the signal value of the pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest if the absolute value of the first difference is larger than the first threshold value, and selecting the signal value of the first neighboring pixel if the absolute value of the first difference is smaller than the first threshold value;

a first mean value calculation step of calculating a mean value of the plurality of pixel signal values selected in the first comparison and selection step;

an h-signal nonlinear low-pass filtering step of making a result calculated in said first mean value calculation step a low-frequency component of the pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest;

a second comparison and selection step of, for each of a ~~second~~ plurality of second neighboring pixels ~~(referred to below as 'second neighboring pixels')~~ having the k-th spectral sensitivity characteristic, disposed in a neighborhood of the pixel position of interest, deciding whether an absolute value of a second difference between its signal value and a mean value of the signals of a plurality of pixels of the k-th spectral sensitivity characteristic adjacent to the pixel position of interest ~~(referred to below as a 'second difference')~~ is larger than a predetermined second threshold value, selecting the mean value of the signals of said plurality of

pixels having the k-th spectral sensitivity characteristic if the absolute value of the second difference is greater than the second threshold value, and selecting the signal value of the second neighboring pixel if the absolute value of the second difference is less than the second threshold value;

a second mean value calculation step of calculating a mean value of the signal values of the plurality of pixels selected in the second comparison and selection step;

a k-signal nonlinear low-pass filtering step of making a result calculated in said second mean value calculation step a low-frequency component of the pixel signal with the k-th spectral sensitivity characteristic at the pixel position of interest; and

a calculation step of multiplying the value of the ~~h-th~~ pixel signal of the h-th spectral sensitivity characteristic at the pixel position of interest by a ratio of the values obtained by the k-signal nonlinear low-pass filtering step and the h-signal nonlinear low-pass filtering step to obtain the ~~k-th~~ pixel signal of the k-th spectral sensitivity characteristic at the pixel position of interest.

9. (Original) The pixel signal processing method of claim 7, wherein the pixels having the first to N-th spectral sensitivity characteristics are pixels of three types, namely, red, green, and blue pixels.

10. (Currently Amended) The pixel signal processing method of claim 7, wherein in calculating the mean value of the plurality of pixel signal values selected in the first comparison and selection step and the second comparison and selection step, each of the first and second mean value calculation steps calculates a weighted mean, using weighting coefficients that decrease with increasing distance from the pixel of interest.

11. (Original) The pixel signal processing method of claim 8, wherein the pixels having the first to N-th spectral sensitivity characteristics are pixels of three types, namely, red, green, and blue pixels.

12. (Currently Amended) The pixel signal processing method of claim 8, wherein in calculating the mean value of the plurality of pixel signal values selected in the first comparison and selection step and the second comparison and selection step, each of the first and second mean value calculation steps calculates a weighted mean, using weighting coefficients that decrease with increasing distance from the pixel of interest.